

Sanitized Copy

Form Approved. O.M.B. No. 2070-0012. Approval Expires 10-31-96.

U.S. ENVIRONMENTAL PROTECTION AGENCY

AGENCY USE ONLY



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FOR NEW CHEMICAL SUBSTANCES

Company Sanitized

When
completed
send this
form toDOCUMENT CONTROL OFFICER
OFFICE OF POLLUTION PREVENTION
AND TOXIC SUBSTANCES, 7407
U.S. E.P.A. 401 M STREET, SW
WASHINGTON, D.C. 20460Enter the total number of pages
in the Premanufacture Notice

17

Document control number

53100000078

EPA case number

L-10-78

GENERAL INSTRUCTIONS

TS - 0 9 F L A 2

- You must provide all information requested in this form to the extent that it is known to or reasonably ascertainable by you. Make reasonable estimates if you do not have actual data.
- Before you complete this form, you should read the "Instructions Manual for Premanufacture Notification" (the Instructions Manual is available from the Toxic Substances Control Act (TSCA) Information Service by calling 202-554-1404, or faxing 202-554-5603).
- If a user fee has been remitted for this notice (40 CFR 700.45), indicate in the boxes above the TS-user fee identification number you have generated. Remember, your user fee ID number must also appear on your corresponding fee remittance, which is sent to EPA, HQ Accounting Operations Branch (PM-226), P.O. 360399M, Pittsburgh, PA 15251-6399, Attn. TSCA User fee.

Part I — GENERAL INFORMATION

You must provide the currently correct Chemical Abstracts (CA) Name of the new chemical substance, even if you claim the identity as confidential. You may authorize another person to submit chemical identity information for you, but your submission will not be complete and the review will not begin until EPA receives this information. A letter in support of your submission should reference your TS user fee identification number. You must submit an original and two copies of this notice including all test data. If you claimed any information as confidential, a single sanitized copy must also be submitted.

Part II — HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE

If there are several manufacture, processing, or use operations to be described in Part II, sections A and B of this notice, reproduce the sections as needed.

Part III — LIST OF ATTACHMENTS

Attach additional sheets if there is not enough space to answer a question fully. Label each continuation sheet with the corresponding section heading. In Part III, list these attachments, any test data or other data and any optional information included in the notice.

OPTIONAL INFORMATION

You may include any information that you want EPA to consider in evaluating the new substance. On page 11 of this form, space has been provided for you to describe pollution prevention and recycling information you may have regarding the new substance.

So-called "binding" boxes are included throughout this form for you to indicate your willingness to be bound to certain statements you make in this section, such as use, production volume, protective equipment . . . This option is intended to reduce delays that routinely accompany the development of consent orders or Significant New Use Rules. Except in the case of exemption applications (such as TMEA, LVE, LOREX) where certain information provided in such notification is binding on the submitter when the Agency approves the exemption application, checking a binding box in this notice does not by itself prohibit the submitter from later deviating from the information (except chemical identity) reported in the form.

CONFIDENTIALITY CLAIMS

You may claim any information in this notice as confidential. To assert a claim on the form, mark (X) the confidential box next to the information that you claim as confidential. To assert a claim in an attachment, circle or bracket the information you claim as confidential. If you claim information in the notices as confidential, you must also provide a sanitized version of the notice, (including attachments). For additional instructions on claiming information as confidential, read the Instructions Manual.



TEST DATA AND OTHER DATA

You are required to submit all test data in your possession or control and to provide a description of all other data known to or reasonably ascertainable by you, if these data are related to the health and environmental effects on the manufacture, processing, distribution in commerce, use, or disposal of the new chemical substance. Standard literature citations may be submitted for data in the open scientific literature. Complete test data (written in English), not summaries of data, must be submitted if they do not appear in the open literature. You should clearly identify whether test data is on the substance or on an analog. Also, the chemical composition of the tested material should be characterized. Following are examples of test data and other data. Data should be submitted according to the requirements of §720.50 of the Premanufacture Notification Rule (40 CFR Part 720).

Test Data (Check Below any included in this notice)

- | | | | |
|---------------------------------|---|---|------------------------------|
| • Environmental fate data | <input type="checkbox"/> Yes | • Other data | <input type="checkbox"/> Yes |
| • Health effects data | <input type="checkbox"/> Yes | Risk assessments | |
| • Environmental effects data | <input type="checkbox"/> Yes | Structure/activity relationships | |
| • Physical/Chemical Properties* | <input checked="" type="checkbox"/> Yes | Test data not in the possession or control of the submitter | |

* A physical and chemical properties worksheet is located on the last page of this form.

TYPE OF NOTICE

(Check Only One)

- ☐ PMN (Premanufacture Notice)
- ☐ INTERMEDIATE PMN (submitted in sequence with final product PMN)
- ☐ SNUN (Significant New Use Notice)
- ☐ TMEA (Test Marketing Exemption Application)
- ☒ LVE (Low Volume Exemption) @ 40 CFR 723.50(c)(1)
- ☐ LOREX (Low Release/Low Exposure Exemption) @ 40 CFR 723.50(c)(2)
- ☐ LVE Modification ☐ LOREX Modification

IS THIS A CONSOLIDATED PMN?

☐ Yes

of chemicals

(Prenotice Communication # required, enter # on page 3)

323187

Public reporting burden for this collection of information is estimated to average 110 hours per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M. St., S.W., Washington, D.C. 20460; and to the Office of Management and Budget, Paperwork Reduction Act (2070-0012), Washington, D.C. 20503.

CERTIFICATION

I certify that to the best of my knowledge and belief:

1. The company named in Part I, section A, subsection 1a of this notice form intends to manufacture or import for a commercial purpose, other than in small quantities solely for research and development, the substance identified in Part I, Section B.
2. All information provided in this notice is complete and truthful as of the date of submission.
3. I am submitting with this notice all test data in my possession or control and a description of all other data known to or reasonably ascertainable by me as required by §720.50 of the Premanufacture Notification Rule.

Additional Certification Statements:

If you are submitting a PMN, Intermediate PMN, Consolidated PMN, or SNUN, check the following **user fee** certification statement that applies:

- ☐ The Company named in Part I, Section A has remitted the fee of \$2500 specified in 40 CFR 700.45(b), or
- ☐ The Company named in Part I, Section A has remitted the fee of \$1000 for an Intermediate PMN (defined @ 40 CFR 700.43) in accordance with 40 CFR 700.45(b), or
- ☐ The Company named in Part I Section A is a small business concern under 40 CFR 700.43 and has remitted a fee of \$100 in accordance with 40 CFR 700.45(b).

If you are submitting a **low volume exemption (LVE)** application in accordance with 40 CFR 723.50(c)(1) or a **Low release and low exposure exemption (LoRex)** application in accordance with 40 CFR 723.50(c)(2), check the following certification statements:

- ☒ The manufacturer submitting this notice intends to manufacture or import the new chemical substance for commercial purposes, other than in small quantities solely for research and development, under the terms of 40 CFR 723.50.
- ☒ The manufacturer is familiar with the terms of this section and will comply with those terms; and
- ☒ The new chemical substance for which the notice is submitted meets all applicable exemption conditions.
- ☒ If this application is for an LVE in accordance with 40 CFR 723.50(c)(1), the manufacturer intends to commence manufacture of the exempted substance for commercial purposes within 1 year of the date of the expiration of the 30 day review period.

The accuracy of the statements you make in this notice should reflect your best prediction of the anticipated facts regarding the chemical substance described herein. Any knowing and willful misinterpretation is subject to criminal penalty pursuant to 18 USC 1001.

Signature and title of Authorized Official (Original Signature Required)		Date	Confidential
			X
Signature of agent - (if applicable)			X

Part I -- GENERAL INFORMATION

Section A -- SUBMITTER IDENTIFICATION

Mark () the "Confidential" box next to any subsection you claim as confidential

					Confidential
1a. Person Submitting Notice (in U.S.)	Name of authorized official	Position			X
	Company				
	Mailing address (number and street)				
	City, State, ZIP Code				
b. Agent (if applicable)	Name of authorized official	Position			X
	Company				
	Mailing address (number and street)				
	City, State, ZIP Code	Telephone	Area Code	Number	
c. If you are submitting this notice as part of a joint submission, mark (X) this box. <input type="checkbox"/>					
Joint Submitter (if applicable)	Name of authorized official	Position			
	Company				
	Mailing address (number and street)				
	City, State, ZIP Code	Telephone	Area Code	Number	
2. Technical Contact (in U.S.)	Name of authorized official	Position			X
	Company				
	Mailing address (number and street)				
	City, State, ZIP Code	Telephone	Area Code	Number	
3. If you have had a prenotice communication (PC) concerning this notice and EPA assigned a PC Number to the notice, enter the number. <input type="checkbox"/>				Mark (X) if none <input checked="" type="checkbox"/>	
4. If you previously submitted an exemption application for the chemical substance covered by this notice, enter the exemption number assigned by EPA. If you previously submitted a PMN for this substance enter the PMN number assigned by EPA (i.e. withdrawn or incomplete). <input type="checkbox"/>				Mark (X) if none <input checked="" type="checkbox"/>	
5. If you have submitted a notice of Bona fide intent to manufacture or import for the chemical substance covered by this notice, enter the notice number assigned by EPA. <input type="checkbox"/>				Mark (X) if none <input checked="" type="checkbox"/>	
6. Type of Notice - Mark (X)		1. <input type="checkbox"/> Manufacture Only <input type="checkbox"/> Binding Option Mark (X)		2. <input checked="" type="checkbox"/> Import Only <input type="checkbox"/> Binding Option Mark (X)	3. <input type="checkbox"/> Both

Part I -- GENERAL INFORMATION -- Continued		
Section B -- CHEMICAL IDENTITY INFORMATION:		You must provide a currently correct Chemical Abstracts (CA) name of the substance based on the ninth Collective Index (9CI) of CA nomenclature rules and conventions.
Mark (X) the "Confidential" box next to any item you claim as confidential		
Complete either item 1 (Class 1 or 2 substances) or 2 (Polymers) as appropriate. Complete all other items.		
If another person will submit chemical identity information for you (for either Item 1 or 2), mark (X) the box at the right. Identify the name, company, and address of that person in a continuation sheet.		<input type="checkbox"/> Confidential
1. Class 1 or 2 chemical substances (for definitions of class 1 and class 2 substances, see the Instructions Manual)		
a. Class of substance - Mark (X) 1 <input type="checkbox"/> Class 1 or 2 <input type="checkbox"/> Class 2		X
b. Chemical name (Currently correct Chemical Abstracts (CA) Name that is consistent with TSCA Inventory listings for similar substances. For Class 1 substances a CA Index Name must be provided. For Class 2 substances either a CA Index Name or CA Preferred Name must be provided, which ever is appropriate based on CA 9CI nomenclature rules and conventions).		X
c. Please identify which method you used to develop or obtain the specified chemical identity information reported in this notice: (check one). <input type="checkbox"/> Method 1 (CAS Inventory Expert Service - a copy of the Identification report obtained from the CAS Inventory Expert Services must be submitted as an attachment to this notice) <input type="checkbox"/> Method 2 (Other Source)		
d. Molecular formula and CAS Registry Number (if a number already exists for the substance)		X
<div style="border: 1px solid black; width: 100%; height: 100%; position: relative;"> <div style="position: absolute; top: 5px; right: 5px; font-size: small;">CAS#</div> </div>		X
e. For a class 1 substance, provide a complete and correct chemical structure diagram. For a class 2 substance - (1) List the immediate precursor substances with their respective CAS Registry Numbers. (2) Describe the nature of the reaction or process. (3) Indicate the range of composition and the typical composition (where appropriate). (4) Provide a correct representative or partial chemical structure diagram, as complete as can be known, if one can be reasonably ascertained.		X

Part I -- GENERAL INFORMATION -- Continued

Section B -- CHEMICAL IDENTITY INFORMATION -- Continued

2. Polymers (For a definition of polymer, see the Instructions Manual.)

Confidential

- a. Indicate the number-average weight of the lowest molecular weight composition of the polymer you intend to manufacture. Indicate maximum weight percent of low molecular weight species (not including residual monomers, reactants, or solvents) below 500 and below 1,000 absolute molecular weight of that composition.

Describe the methods of measurement or the basis for your estimates: GPC ☐ Other ☐: (Specify) See Appendix D _____

- i) lowest number average molecular weight: _____
 ii) maximum weight % below 500 molecular weight: _____
 iii) maximum weight % below 1000 molecular weight: _____

☐ Mark (X) this box if you attach a continuation sheet.

- b. You must make separate confidentiality claims for monomer or other reactant identity, composition information, and residual information. Mark (X) the "Confidential" box next to any item you claim as confidential
- (1) - Provide the specific chemical name and CAS Registry Number (if a number exists) of each monomer or other reactant used in the manufacture of the polymer.
 - (2) - Mark (X) this column if entry in column (1) is confidential.
 - (3) - Indicate the typical weight percent of each monomer or other reactant in the polymer.
 - (4) - Mark (X) the identity column if you want a monomer or other reactant used at two weight percent or less to be listed as part of the polymer description on the TSCA Chemical Substance Inventory.
 - (5) - Mark (X) this column if entries in columns (3) and (4) are confidential.
 - (6) - Indicate the maximum weight percent of each monomer or other reactant that may be present as a residual in the polymer as manufactured for commercial purposes.
 - (7) - Mark (X) this column if entry in column (6) is confidential.

Monomer or other reactant and CAS Registry Number (1)	Confidential (2)	Typical composition (3)	Identity Mark (X) (4)	Confidential (5)	Maximum residual (6)	Confidential (7)

☐ Mark (X) this box if you attach a continuation sheet.

- c. Please identify which method you used to develop or obtain the specified chemical identity information reported in this notice (check one).

☐ Method 1 (CAS Inventory Expert Service - a copy of the identification report obtained from CAS Inventory Expert Service must be submitted as attachment to this notice) [See Appendix C] ☐ Method 2 (other source)

- d. The currently correct Chemical Abstracts (CA) name for the polymer that is consistent with TSCA Inventory listings for similar polymers.

- e. Provide a correct representative or partial chemical structure diagram, as complete as can be known, if one can be reasonably ascertained.

This Page Does Not Apply

☐ Mark (X) this box if you attach a continuation sheet.

Part I -- GENERAL INFORMATION -- Continued

Section B -- CHEMICAL IDENTITY INFORMATION -- Continued

3. Impurities

- (a) - Identify each impurity that may be reasonably anticipated to be present in the chemical substance as manufactured for commercial purpose. Provide the CAS Registry Number if available. If there are unidentified impurities, enter "unidentified."
 (b) - Estimate the maximum weight % of each impurity. If there are unidentified impurities, estimate their total weight %.

Impurity and CAS Registry Number (a)	Maximum percent (b)	Confidential
None Known	%	
	%	
	%	
	%	
	%	
	%	
	%	

☐ Mark (X) this box if you attach a continuation sheet.

4. Synonyms - Enter any chemical synonyms for the new chemical identified in subsection 1 or 2.

Confidential
X

☐ Mark (X) this box if you attach a continuation sheet.

5. Trade identification - List trade names for the new chemical substance identified in subsection 1 or 2.

X

☐ Mark (X) this box if you attach a continuation sheet.

6. Generic chemical name - If you claim chemical identity as confidential, you must provide a generic name for your substance that reveals the specific chemical identity of the new chemical substance to the maximum extent possible. Refer to the TSCA Chemical Substance Inventory, 1985 Edition, Appendix B for guidance on developing generic names.

Heterocyclic salt

☐ Mark (X) this box if you attach a continuation sheet.

7. Byproducts - Describe any byproducts resulting from the manufacture, processing, use, or disposal of the new chemical substance. Provide the CAS Registry Number if available.

Byproduct (1)	CAS Registry Number (2)	Confidential
None Known		

☐ Mark (X) this box if you attach a continuation sheet.

Part I -- GENERAL INFORMATION -- Continued

Section C -- PRODUCTION, IMPORT, AND USE INFORMATION:

Mark (X) the "Confidential" box next to any item you claim as confidential.

- 1. Production volume** -- Estimate the **maximum** production volume during the first 12 months of production. Also estimate the maximum production volume for any consecutive 12-month period during the first three years of production. Estimates should be on 100% new chemical substance basis. For a Low Volume Exemption application, if you choose to have your notice reviewed at a lower production volume than 10,000 kg/yr, specify the volume and mark (x) in the binding box. If granted, you are bound to this volume

Maximum first 12-month production (kg/yr) (100% new chemical substance basis)	Maximum 12-month production (kg/yr) (100% new chemical substance basis)	Confidential	Binding Option Mark (x)
		X	

- 2. Use Information** -- You must make separate confidentiality claims for the description of the category of use, the percent of production volume devoted to each category, the formulation of the new substance, and other use information. Mark (X) the "Confidential" Box next to any item you claim as confidential.

- a. (1) -- Describe each intended category of use of the new chemical substance by function and application..
- (2) -- Mark (X) this column if entry column (1) is confidential business information (CBI).
- (3) -- Indicate your willingness to have the information provided in column (1) binding.
- (4) -- Estimate the percent of total production for the first three years devoted to each category of use.
- (5) -- Mark (X) this column if entry in column (4) is confidential business information (CBI).
- (6) -- Estimate the percent of the new substance as formulated in mixtures, suspensions, emulsions, solutions, or gels as manufactured for commercial purposes at sites under your control associated with each category of use.
- (7) -- Mark (X) this column if entry in column (6) is confidential business information (CBI).
- (8) -- Indicate % of product volume expected for the listed "use" sectors. Mark more than one box if appropriate. Mark (X) to indicate your willingness to have the use type provided in (8) binding.
- (9) -- Mark (X) this column if entry(ies) in column (8) is (are) confidential business information (CBI).

Category of use (1) (by function and application i.e. a dispersive dye for finishing polyester fibers)	CBI (2)	Binding Option Mark (x) (3)	Production % (4)	CBI (5)	% in Formulation (6)	CBI (7)	% of substance expected per use (8)					CBI (9)
							Site-limited	Consumer*	Industrial	Commercial	Binding Option	
Flame retardant for use in adhesives and coatings				X		X						X

* If you have identified a "consumer" use, please provide on a continuation sheet a detailed description of the use(s) of this chemical substance in consumer products. In addition include estimates of the concentration of the new chemical substance as expected in consumer products and describe the chemical reactions by which this substance loses its identity in the consumer product.

☐ Mark (X) this box if you attach a continuation sheet.

- b. **Generic use description** If you claim any category of use description in subsection 2a as confidential, enter a generic description of that category. Read the Instructions Manual for examples of generic use descriptions.

☐ Mark (X) this box if you attach a continuation sheet.


- 3. Hazard Information** -- Include in the notice a copy of reasonable facsimile of any hazard warning statement, label, material safety data sheet, or other information which will be provided to any person who is reasonably likely to be exposed to this substance regarding protective equipment or practices for the safe handling, transport, use, or disposal of the new substance. List in part III hazard information you include.

☒ Mark (X) this box if you attach hazard information. SEE APPENDIX D

Part II-- HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE**Section A -- INDUSTRIAL SITES CONTROLLED BY THE SUBMITTER**

Mark (X) the "Confidential" box next to any item you claim as confidential

Complete section A for each type of manufacture, processing, or use operation involving the new chemical substance at industrial sites you control. Importers do not have to complete this section for operations outside the U.S.; however, you may still have reporting requirements if there are further industrial processing or use operations after import. You must describe these operations. See instructions manual

1. Operation description				Confidential
a. Identity -- Enter the identity of the site at which the operation will occur.				
Name				X
Site address (number and street)				
City, County, State, ZIP code				
If the same operation will occur at more than one site, enter the number of sites. Identify the additional sites on a continuation sheet, and if any of the sites have significantly different production rates or operations, include all the information requested in this section for those sites as attachments. 				
<input type="checkbox"/> Mark (X) this box if you attach a continuation sheet.				
b. Type --				
Mark (X) <input type="checkbox"/> Manufacturing <input type="checkbox"/> Processing <input type="checkbox"/> Use				
c. Amount and Duration -- Complete 1 or 2 as appropriate				
1. Batch	Maximum kg/batch (100% new chemical substance)	Hours/batch	Batches/year	
2. Continuous	Maximum kg/batch (100% new chemical substance)	Hours/batch	Batches/year	
d. Process description <input type="checkbox"/> Mark (X) to indicate your willingness to have your process description binding.				X
(1) Diagram the major unit operation steps and chemical conversions. Include interim storage and transport containers (specify- e.g. 5 gallon pails, 55 gallon drum, rail car, tank truck, etc.).				
(2) Provide the identity, the approximate weight (by kg/day or kg/batch on a 100% new chemical substance basis), and entry point of all starting materials and feedstocks (including reactants, solvents, catalysts, etc.), and of all products, recycle streams, and wastes. Include cleaning chemicals (note frequency if not used daily or per batch.).				
(3) Identify by number the points of release, including small or intermittent releases, to the environment of the new chemical substance.				
<input type="checkbox"/> Mark (X) this box if you attach a continuation sheet.				

Part II-- HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE -- Continued

Section A -- INDUSTRIAL SITES CONTROLLED BY THE SUBMITTER -- Continued

- 2. Occupational Exposure** -- You must make separate confidentiality claims for the description of worker activity, physical form of the new chemical substance, number of works exposed, and duration of activity. Mark (X) the "Confidential" box next to any item you claim as confidential.
- (1) -- Describe the activities (i.e. bag dumping, tote filling, unloading drums, sampling, cleaning, etc.) in which workers may be exposed to the substance.
 - (2) -- Mark (X) this column if entry in column (1) is confidential business information (CBI).
 - (3) -- Describe any protective equipment and engineering controls used to protect workers.
 - (4) and (6) -- Indicate your willingness to have the information provided in column (3) or (5) binding.
 - (5) -- Indicate the physical form(s) of the new chemical substance (e.g., solid: crystal, granule, powder, or dust) and % new chemical substance (if part of a mixture) at the time of exposure.
 - (7) -- Mark (X) this column if entry in column (5) is confidential business information (CBI).
 - (8) -- Estimate the maximum number of workers involved in each activity for all sites combined.
 - (9) -- Mark (X) this column if entry in column (8) is confidential business information (CBI).
 - (10) and (11) -- Estimate the maximum duration of the activity for any worker in hours per day and days per year.
 - (12) -- Mark (X) this column if entries in columns (10) and (11) are confidential business information (CBI).

Worker activity (i.e., bag dumping, filling drums) (1)	CBI (2)	Protective Equipment/ Engineering Controls (3)	Binding Option Mark (x) (4)	Physical forms(s) and % new substance (5)	Binding Option Mark (x) (6)	CBI (7)	# of Workers Exposed (8)	CBI (9)	Maximu m Hrs/day (10)	duration Days/yr (11)	CBI (12)

☐ Mark (X) this box if you attach a continuation sheet.

- 3. Environmental Release and Disposal** -- You must make separate confidentiality claims for the release number and the amount of the new chemical substance released and other release and disposal information. Mark (X) the "Confidential" box next to each item you claim as confidential.
- (1) -- Enter the number of each release point identified in the process description, part II, section A, subsection 1d(3).
 - (2) -- Estimate the amount of the new substance released (a) directly to the environment or (b) into control technology (in kg/day or kg/batch).
 - (3) -- Mark (X) this column if entries in columns (1) and (2) are confidential business information (CBI).
 - (4) -- Identify the media (stack air, fugitive air (optional-see Instruction Manual), surface water, on-site or off-site land or incineration, POTW, or other (specify)) to which the new substance will be released from that release point.
 - (5) -- a. Describe control technology, if any, and control efficiency that will be used to limit the release of the new substance to the environment. For releases disposed of on land, characterize the disposal method and state whether it is approved for disposal of RCRA hazardous waste. On a continuation sheet, for each site describe any additional disposal methods that will be used and whether the waste is subject to secondary or tertiary on-site treatment. b. Estimate the amount released to the environment after control technology (in kg/day).
 - (6) -- Mark (X) this column if entries in columns (4) and (5) are confidential business information (CBI).
 - (7) -- Identify the destination(s) of releases to water. Please supply NPDES (National Pollutant Discharge Elimination System) numbers for direct discharges or NPDES numbers of the POTW (Publicly Owned Treatment Works). Mark (X) if the POTW name or NPDES # is confidential business information (CBI).

Release Number (1)	Amount of new substance released		CBI (3)	Media of release e.g. stack air (4)	Control technology and efficiency (you may wish to optionally attach efficiency data)		Binding Mark (X)			CBI (6)
	(2a)	(2b)			(5a)			(5b)		
					<i>This page does not apply.</i>					

(7) Mark (X) the destination(s) of releases to water.	<input type="checkbox"/> POTW provide name(s) below: N/A	CBI	<input type="checkbox"/> Navigable waterway N/A	<input type="checkbox"/> Other - Specify	provide NPDES #		CBI
					N/A		

☐ Mark (X) this box if you attach a continuation sheet.

Part II-- HUMAN EXPOSURE AND ENVIRONMENTAL RELEASE -- Continued

Section B -- INDUSTRIAL SITES CONTROLLED BY OTHERS

Complete section B for typical processing or use operations involving the new chemical substance at sites you do not control. Importers do not have to complete this section for operations outside the U.S.; however, you must report any processing or use activities after import. See the Instructions Manual. *Complete a separate section B for each type of processing, or use operation involving the new chemical substance.* If the same operation is performed at more than one site describe the typical operation common to these sites. Identify additional sites on a continuation sheet.

- 1. Operation Description --** To claim information in this section as confidential, circle or bracket the specific information that you claim as confidential.
- (1) -- Diagram the major unit operation steps and chemical conversions, including interim storage and transport containers (specify - e.g. 5 gallon pails, 55 gallon drums, rail cars, tank trucks, etc). On the diagram, identify by letter and briefly describe each worker activity. (2) -- Provide the identity, the approximate weight (by kg/day or kg/batch, on an 100% new chemical substance basis), and entry point of all feedstocks (including reactants, solvents and catalysts, etc) and all products, recycle streams, and wastes. Include cleaning chemicals (note frequency if not used daily or per batch). (3) -- Identify by number the points of release, including small or intermittent releases, to the environment of the new chemical substance. (4) Please enter the # of sites (remember to identify the locations of these sites on a continuation sheet):

of sites

☐ Mark (X) this box if you attach a continuation sheet.

2. Worker Exposure/Environmental Release

- (1) -- From the diagram above, provide the letter for each worker activity. Complete 2-8 for each worker activity described.
- (2) -- Estimate the number of workers exposed for all sites combined.
- (4) -- Estimate the typical duration of exposure per worker in (a) hours per day and (b) days per year.
- (6) -- Describe physical form of exposure and % new chemical substance (if in mixture), and any protective equipment and engineering controls, if any, used to protect workers.
- (7) -- Estimate the percent of the new substance as formulated when packaged or used as a final product.
- (9) -- From the process diagram above, enter the number of each release point. Complete 9-13 for each release point identified.
- (10) -- Estimate the amount of the new substance released (a) directly to the environment or (b) into control technology to the environment (in kg/day or kg/batch).
- (12) -- Describe media of release i.e. stack air, fugitive air (optional-see Instructions Manual), surface water, on-site or off-site land or incineration, POTW, or other (specify) and control technology, if any, that will be used to limit the release of the new substance to the environment.
- (14) -- Identify byproducts which may result from the operation.
- (3), (5), (8), (11), (13) and (15) -- Mark (X) this column if any of the preceding entries are confidential business information (CBI).

Letter of Activity (1)	# of Workers Exposed (2)	CBI (3)	Duration of Exposure		CBI (5)	Protective Equip. / Engineering Controls/ Physical Form and % new substance (6)	% in Formulation (7)	CBI (8)	Release Number (9)	Amount of New Substance Released		CBI (11)	Media of Release & Control Technology (12)	CBI (13)
			(4a)	(4b)						(10a)	(10b)			
		X			X			X						
		X			X			X						
		X			X			X						
		X			X			X						
		X			X			X						X

(14) -- Byproducts:

(15)

☐ Mark (X) this box if you attach a continuation sheet.

OPTIONAL POLLUTION PREVENTION INFORMATION

To claim information in this section as confidential circle or bracket the specific information that you claim as confidential.

In this section you may provide information not reported elsewhere in this form regarding your efforts to reduce or minimize potential risks associated with activities surrounding manufacturing, processing, use and disposal of the PMN substance. Please include new information pertinent to pollution prevention, including source reduction, recycling activities and safer processes or products available due to the new chemical substance. Source reduction includes the reduction in the amount or toxicity of chemical wastes by technological modification, process and procedure modification, product reformulation, raw materials substitution, and/or inventory control. Recycling refers to the reclamation of useful chemical components from wastes that would otherwise be treated or released as air emissions or water discharges, or land disposal. Descriptions of pollution prevention, source reduction and recycling should emphasize potential risk reduction subsequent to compliance with existing regulatory requirements and can be either quantitative or qualitative. The EPA is interested in the information to assess overall net reductions in toxicity or environmental releases and exposures, not the shifting of risks to other environmental media or non-environmental areas (e.g., occupational or consumer exposure). In addition, information on the relative cost or performance characteristics of the PMN substance to potential alternatives may be provided.

All information provided in this section will be taken into consideration during the review of this substance. See Instructions Manual and Pollution Prevention Guidance manual for guidance and examples.

Describe the expected net benefits, such as (1) an overall reduction in risk to human health or the environment; (2) a reduction in the volume manufactured; (3) a reduction in the generation of waste materials through recycling, source reduction or other means; (4) a reduction in potential toxicity or human exposure and/or environmental release; (5) an increase in product performance, a decrease in the cost of production and/or improved operation efficiency of the new chemical substance in comparison to existing chemical substances used in similar application; or (6) the extent to which the new chemical substance may be a substitute for an existing substance that poses a greater overall risk to human health or the environment.

No Information is being supplied at this time.

☐ Mark (X) this box if you attach a continuation sheet.

Part III -- LIST OF ATTACHMENTS

Attach continuation sheets for sections of the form and test data and other data (including physical/chemical properties and structure/activity information), and optional information after this page. Clearly identify the attachment and the section of the form to which it relates, if appropriate. Number consecutively the pages of the attachments. In the column below, enter the inclusive page numbers of each attachment.

Mark (X) the "Confidential" box next to any attachment name you claim as confidential. Read the Instructions Manual for guidance on how to claim any information in an attachment as confidential. You must include with the sanitized copy of the notice form a sanitized version of any attachment in which you claim information as confidential.

[illegible]

☐ Mark (X) this box if you attach a continuation sheet. Enter the attachment name and number.

PHYSICAL AND CHEMICAL PROPERTIES WORKSHEET

To assist EPA's review of physical and chemical properties data, please complete the following worksheet for data you provide and include it in the notice. Identify the property measured, the page of the notice on which the property appears, the value of the property, the units in which the property is measured (as necessary), and whether or not the property is claimed as confidential. The physical state of the neat substance should be provided. These measured properties should be for the neat (100% pure) chemical substance. Properties that are measured for mixtures or formulations should be so noted (% PMN substance in ____). You are not required to submit this worksheet; however, EPA strongly recommends that you do so, as it will simplify review and ensure that confidential information is properly protected. You should submit this worksheet as a supplement to your submission of test data. This worksheet is not a substitute for submission of test data.

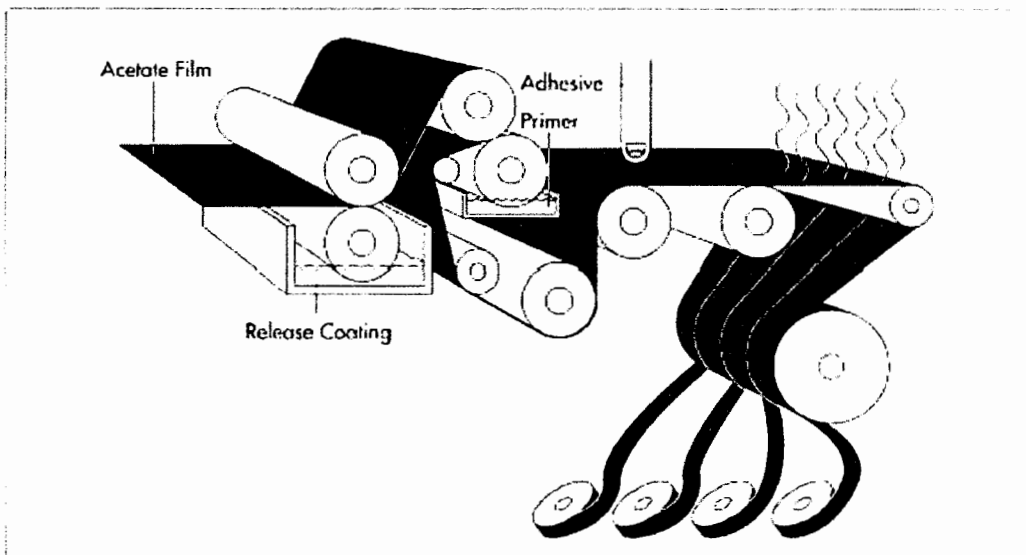
Property (a)	Mark (X) if provided	Page number (b)	Value (c)	Measured or Estimate (M or E)	Confidential Mark (X) (d)
Physical state of neat substance			____(s) ____ (l) ____ (g)		X
Vapor pressure @ Temperature _____ °C			Not determined		
Density/relative density					X
Solubility @ Temperature _____ °C Solvent _____ Solvent _____			Not Determined		
Solubility in water @ Temperature _____ °C					X
Melting temperature (by DSC)					X
Boiling / sublimation temperature @ _____ mmHg pressure			Not determined		
Spectra (IR, X-Ray)					X
Dissociation constant			Not determined		
Particle size distribution					X
Octanol / water partition coefficient			Not determined		
Henry's Law constant			Not determined		
Volitalization from water			Not determined		
Volitalization from soil			Not determined		
pH@ concentration _____					X
Flammability					X
Explodability					X
Adsorption / coefficient			Not determined		
Other - Specify					

**Pages A1 through A2 have been Omitted from this Sanitized
Copy as the Information is Considered Confidential Business
Information.**

Description of Adhesive Tape Manufacturing

The use of adhesive tapes can be found in many industries, such as labeling, packaging, automotive, aerospace, etc. Adhesive tapes consist of a backing to which an adhesive substance is affixed for the purpose of joining materials with a surface bond. There is typically a film that provides the backing for adherends that create the "stickiness" of the tape. The adherend is typically made up of acrylic resins and petroleum byproducts that are broken down before being fused into a polymer compound. This compound is then mixed with a solvent, creating an aqueous emulsion (solutions in which the microscopic resin particles are held suspended) that is applied to the backing. The side that won't receive an adhesive coating is treated with a release agent that enables the tape to be wound and unwound without sticking together. After the two materials are combined, the final product is cut for consumer/industrial use, inspected, packaged, and shipped.

There are different types of adhesive tapes, such as pressure sensitive tapes which adhere when a slight pressure is applied and adhesive tapes that are activated by heat or water.



The Manufacturing Process

The tapes are created first by producing a film that is then wound on large spools and loaded into a machine that applies the adhesive. The machine uses a series of rollers, much like a printing press. After the adhesive is applied, the film is heated and dried and then cut into the appropriate size and packaged.

Making the adhesive

- Modern adhesives are inherently sticky and so require no additional tackifying agents. Such polymers are then mixed with a solvent that catalyzes their polymerization, the process by which they combine to form a complex molecular chain made up of repeating structural sequences. The resulting adhesomer may be used in this form or redissolved with more coating solvents, depending on its intended application. It is then stored until needed.

Combining film and adhesive

- First, the non-adhesive side of the backing is treated with a release agent that makes the tape easy to unwind. Before the adhesive is applied to the sticky side, the side may be treated with a primer to anchor the adhesive. This coating is applied by routing the film over a large roller that rotates in an open vat of primer. As the tape moves over the roller, it applies the primer. Once these surface coats have been applied, the tape travels over heated drums (known as hot cans) that dry it. A very thin layer of adhesive is metered onto the primed side of the tape, which is then rolled into long ovens for high-temperature drying.

Rolling, cutting, and packaging the tape

- Once dried, the tape is wound onto large jumbo rolls and routed over slicers that divide it into varying widths. The tape rolls are cut to fit varying customer needs.

**Pages A5 through A15 have been Omitted from this Sanitized
Copy as the Information is Considered Confidential Business
Information.**

CONFIDENTIAL

Focus Report
New Chemicals Program
PMN Number: **L-10-0078**

Focus Date: 12/28/2009 12:00:00 AM Report Status: Completed
Consolidated Set:
Focus Chair: Audrey Binder Contractor: Paul Sohi

I. Notice Information

Submitter: [REDACTED] CAS Number: [REDACTED]
Chemical Name: [REDACTED]
Use: Flame retardant for use in adhesives and coatings
[REDACTED]

PV-Max: [REDACTED] Kg/yr Binding Option: No
Manufacture: Import: X

II. SAT Results

(1) **Health Rating:** 2-3 **Eco Rating:** 2 **Comments:** ;chronic concern for algae only

Occupational: 2-3B **Non-Occupational:** **Environmental:** 1

(1) **PBT:** 3 1 2 **Comments:** Anion
(2) **PBT:** 2 1 2 **Comments:** Cation

III. OTHER FACTORS

Categories:

Health Chemical Category: Ecotox Category: [REDACTED]

Related Cases/Regulatory History:

Health related Cases: [REDACTED]

Ecotox Related Cases:

Analogs: [REDACTED]

Regulatory History:

[REDACTED] - Focus Drop
[REDACTED] - GRANTED WITH CONDITION
[REDACTED] - FOCUS DROP
[REDACTED] FOCUS DROP
[REDACTED] - DIV DIR BRF DROP EXPOSURE-BASED
[REDACTED] - N/A
[REDACTED] FOCUS DROP
[REDACTED] WITHDRAWN/FACE 5E
[REDACTED] - GRANTED

MSDS/Label Information:

MSDS: Yes Label: No

Exposure Based Information:

Exposure Based Review: N Exposure Based Review (Health): N

Exposure Based Review (Eco): N
Exposure Based Review
(Non Occupational):

Exposure Based (Occupational): No
Exposure Based (Environmental):

IV. Summary of SAT Assessment

Fate:

Fate Summary:

L-10-0078

The EPI estimations for the individual ions may not be representative of the behavior of the parent salt.

FATE:

log Fish BCF = 0.50 (E)

log Fish BAF = -0.05 (E)

PMN Substance:

Time for complete ultimate aerobic biodeg = Anion > mo; Cation wk-mo

Sorption to soils/sediments = Anion low; Cation low

PBT Potential: Anion P3B1; Cation P2B1

*CEB FATE: Migration to ground water = Anion rapid; Cation rapid

Health:

Health Summary:

Not absorbed from the skin, absorbed from the lung (pchem), absorbed from the GI tract (analog). Concerns for the [REDACTED] are neurotoxicity (convulsions induced by touch in rats in an acute study, LD50 = 4498 mg/kg ([REDACTED])); uncertain concern for oncogenicity and effects on the kidney at high doses ([REDACTED]); mutagenicity; and developmental toxicity. Concerns for the [REDACTED] are developmental toxicity, neurotoxicity, and male reproductive toxicity [REDACTED] based on a study in dogs with a NOAEL of 8.8 mg [REDACTED]/d; 38-week LOAEL = 29 mg [REDACTED]/kg/d with severe testicular atrophy and spermatogenic arrest. Moderate high concern.

Test Data:

[REDACTED] - negative in Salmonella with and without activation
negative in an oral mouse micronucleus assay
rat 28-day oral NOEL = 125 mg/kg, LOEL = 375 mg/kg, indications of kidney toxicity
rat dietary 1-generation reproductive toxicity study NOAEL = 1600 ppm (191 - 341 mg/kg)

[REDACTED] - rat oral LD50 = 4498 mg/kg with signs of neurotoxicity

[REDACTED] - positive in male rats, urinary bladder tumors associated with bladder stones, negative in female rats and male and female mice

Ecotox:

Ecotox Values:

Fish 96-h LC50: >100(P)
Daphnid 48-h LC50: >100(P)
Green algal 96-h EC50: >100(P)
Fish Chronic Value: >01(P)
Daphnid ChV: >10(P)
Algal ChV: 3.0(P)

Ecotox values comments: Predictions are based on SARs for [REDACTED], [REDACTED] SAR chemical

class = [REDACTED]

Ecotox Factors:

Assessment Factor: 10
Concern Concentration: 300

V. Summary of Exposures/Releases

Engineering Summary: L-10-0078

Exposures/Releases	Release	Release	Exposure
Scenario	Use: Adhesive Tape Manufacturing	Use: Adhesive Tape Manufacturing	Use: Adhesive Tape Manufacturing
Sites			
Media			Inhalation
Descriptor A	Output 2	Conservative	Upper Bound
Quantity A (kg/site/day)			
Frequency A (day/year)			
Descriptor B			
Quantity B (kg/site/day)			
Frequency B (day/year)			
From			
Workers			
Exposure Type			

VI. Focus Decision and Rationale

Regulatory Actions

Regulatory Decision: LVE Grant

Decision Date: 12/28/2009

Type of Decision:

Rationale: L-10-0078 was granted. Although human health concerns were moderate-high overall concerns were low due to the use of adequate PPE and no dermal exposures expected. Ecotoxicity concerns were moderate and potential risks to the environment were low due to no releases to water. [REDACTED]
[REDACTED]

Summary of Exposures and Releases:

Use: Adhesive Tape Manufacturing
[REDACTED]
[REDACTED]

Dermal: Not required, per SAT.
[REDACTED]
[REDACTED]

LADDpot (mg/kg/day): 1.53E-05

LADCpot (mg/L): 7.85E-04

P2 Rec Comments:

Testing:

Final Recommended:

Health:

Eco:

Fate:

Other:

SAT Report

PMN Number: L-10-0078

SAT Date: 12/15/2009

Print Date: 4/15/2015

Related cases:

Health related cases:

Ecotox related cases: Analogs:

Concern levels:

Type of Concern:	<u>Health</u>	<u>Eco</u>	<u>Comments</u>
Level of Concern:	2-3	2	Health: ; Eco: chronic concern for algae only

<u>Persistence</u>	<u>Bioaccum</u>	<u>Toxicity</u>	<u>Comments</u>
3	1	2	Anion
2	1	2	Cation
		Awaiting	
		Human Health	
		Entry	
		Awaiting	
		Human Health	
		Entry	
		Awaiting	
		Human Health	
		Entry	

Exposure Based Review:

Health: No

Ecotox: No

Routes of exposure:

Health: Drinking Water Inhalation

Ecotox: All releases to water

Fate: ; Anion rapid; Cation rapid

Keywords:

Keywords:

Summary of Assessment:

Fate:

Fate Summary: L-10-0078

The EPI estimations for the individual ions may not be representative of the behavior of the

parent salt.

FATE:

POTW removal (%) = Anion 0; Cation 0

Time for complete ultimate aerobic biodeg = Anion > mo; Cation wk-mo

Sorption to soils/sediments = Anion low; Cation low

PBT Potential: Anion P3B1; Cation P2B1

*CEB FATE: Migration to ground water = Anion rapid; Cation rapid

Health:

Health Summary: Not absorbed from the skin, absorbed from the lung (pchem), absorbed from the GI tract (analog). Concerns for the [REDACTED] neurotoxicity (convulsions induced by touch in rats in an acute study, LD50 = 4498 mg/kg [REDACTED]); uncertain concern for oncogenicity and effects on the kidney at high doses ([REDACTED]); mutagenicity; and developmental toxicity. Concerns for the [REDACTED] are developmental toxicity, neurotoxicity, and male reproductive toxicity [IRIS RfD = 0.2 mg [REDACTED]/kg/d based on a study in dogs with a NOEL of 8.8 mg [REDACTED]/kg/d; 38-week LOAEL = 29 mg [REDACTED]/kg/d with severe testicular atrophy and spermatogenic arrest. Moderate high concern.

Test Data:

[REDACTED] - negative in Salmonella with and without activation
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rat 28-day oral NOEL = 125 mg/kg, LOEL = 375 mg/kg, indications of kidney toxicity
rat dietary 1-generation reproductive toxicity study NOEL = 1600 ppm (191 - 341 mg/kg)

[REDACTED] - rat oral LD50 = 4498 mg/kg with signs of neurotoxicity

[REDACTED] - positive in male rats, urinary bladder tumors associated with bladder stones, negative in female rats and male and female mice

Ecotox:

Test Organism	Test	Test End	Predicted	Measured	Comments
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	Type	Point			
fish	96-h	LC50	>100		
daphnid	48-h	LC50	>100		
green algal	96-h	EC50	>100		
fish	—	chronic value	>01		
daphnid	—	chronic value	>10		
algal	—	chronic value	3.0		
Sewage Sludge	3-h	EC50	—		
Sewage Sludge	—	Chronic Value	—		

Ecotox Values Comments:

Factors	Values	Comments
Assessment Factor	10	
Concentration of Concern (ppb)	300	
SARs		
SAR Class		
Ecotox Category		

Ecotox Factors Comments:

SAT Chair: Becky Jones

INITIAL REVIEW ENGINEERING REPORT

L-10-0078

Focus Ready Draft 12/21/2009

ENGINEER: Arnold \ DDH

PV (kg/yr):

Revision Notes/Assessment Overview:

SUBMITTER:)

USE: Flame retardant for use in adhesives and coatings. Analog .

OTHER USES:

MSDS: Yes

LABEL: No

CRSS: (12/14/2009):

Chemical Name:

Consumer Use:

SAT (concerns): (12/15/2009):

Migration to groundwater:

PBT rating: P3 B1 T2 anion P3B1T2; cation P2B1T2

Health: 2-3, Drinking Water, Inhalation

Eco: 2, Water (All releases to water with a CC = 300 ppb)

OCCUPATIONAL EXPOSURE RATING: 2-3B

NOTES & KEY ASSUMPTIONS:

Generated by the 06/07/2005 version of ChemSTEER. The submitter was contacted for [REDACTED] [REDACTED] see contact report. The LVE is [REDACTED]. Therefore, all assessments were made [REDACTED]. The LVE is imported; MFG is not assessed. After import, the PMN is sold to customer sites where it is directly [REDACTED]. This IRER assesses releases [REDACTED] per submission. There is potential inhalation exposure to [REDACTED] [REDACTED] g. Assessment of dermal exposure is not required by SAT. [REDACTED], same use past case, [REDACTED] was referenced. The assessments for this IRER are consistent with those for [REDACTED]. Similar use past cases referenced for consistency include [REDACTED] [REDACTED] MFG and [REDACTED] assessed releases and exposures [REDACTED] [REDACTED] assessed inhalation exposure [REDACTED] [REDACTED] [REDACTED] assessed releases [REDACTED] [REDACTED] assessed dermal exposure to PMN; dermal exposure is not required for [REDACTED] and [REDACTED] (consistent with this IRER).

POLLUTION PREVENTION CONSIDERATIONS:

None.

P2 REC:

EXPOSURE-BASED REVIEW: No (0 criteria met)

L-10-0078

Use: Adhesive Tape Manufacturing

Number of Sites/Location: [REDACTED] submitter site(s)
unknown sites

Basis: The submission indicated [REDACTED] use sites, [REDACTED], [REDACTED] in final [REDACTED]

[REDACTED]
[REDACTED] (submission; contact report)

ENVIRONMENTAL RELEASES ESTIMATE SUMMARY

IRER Note: The daily releases listed for any source below may coincide with daily releases from the other sources to the same medium. Water - not expected.

[REDACTED]
Output 2: [REDACTED] kg/site-day over [REDACTED] day/yr from [REDACTED] sites or [REDACTED] /yr

from: [REDACTED]
[REDACTED]

[REDACTED]
Conservative: [REDACTED] kg/site-day over [REDACTED] day/yr from [REDACTED] sites or [REDACTED] kg/yr

RELEASE TOTAL

[REDACTED] kg/yr - all sites

OCCUPATIONAL EXPOSURES ESTIMATE SUMMARY

Tot. # of workers exposed via assessed routes: [REDACTED]

Basis:

Inhalation:

Exposure to [REDACTED]

Upper Bound: [REDACTED] mg/day over [REDACTED] days/yr

Number of workers (all sites) with Inhalation exposure: [REDACTED]

Basis: [REDACTED]; OSHA PNOR PEL-Limiting Model.

INHALATION MONITORING DATA REVIEW

1) Uncertainty (estimate based on model, regulatory limit, or data not specific to industry): Yes

2) (a) Exposure level > 1 mg/day? Yes

(b) Hazard Rating for health of 2 or greater? Yes

Inhalation Monitoring Data Desired? Yes (both criteria met)

INITIAL REVIEW EXPOSURE REPORT (IRExR)

Chemical ID: L100078

Reviewer: Sherer

Results Table: Dose, Concentration, and Days Exceeded Results Summary

Exposure Scenario ¹	Water						Landfill	Stack Air		Fugitive Air	
Release activity(ies) ² ; exposure calculation(s) ³	Drinking Water		Fish Ingestion		7Q10 ⁴ CC=?	PDM Days Exceeded	LADD	ADR	LADD	ADR	LADD
	ADR	LADD	ADR	LADD							
	mg/kg/day	mg/kg/day	mg/kg/day	mg/kg/day	µg/l	# Days	mg/kg/day	mg/kg/day	mg/kg/day	mg/kg/day	mg/kg/day
Use: max LADD	---	---	---	---	---	---	1.53E-05	---	---	---	---

¹ Exposure scenario titles consist of release activity followed by exposure calculation abbreviation.² Release activities are from engineering report's Manufacturing (Mfg), Processing (Proc) and Use release activity labels.

Multiple release activities are combined in one exposure scenario if their releases occur at same location.

³ Exposure calculations are Acute Dose Rate (ADR), Lifetime Average Daily Dose (LADD), and Probabilistic Dilution Model (PDM). There may be one, two, or all three exposure calculations per exposure scenario.

CC is the aquatic concentration of concern.

⁴ This column displays concentration values for the 7Q10 streamflow, which is defined as the average streamflow of the 7 consecutive days of lowest flow within a 10 year period.

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: L100078

Assessor: Sherer

ENVIRONMENTAL RELEASES

Scenario#: 1

Number of Release Sites: 1

Release Activity:

Use: max LADD

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
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Total Releases:

1	1	1	1	1
(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)

Non-sludge/Sludge

Release Days/yr:

1	1	1	1
---	---	---	---

Per Site Release:

1	1	1	1
(kg/site/day)	(kg/site/day)	(kg/site/day)	(kg/site/day)

Remarks:

Chemical ID: L100078

SCENARIO #: 1 ACTIVITY: Use: max LADD

RELEASE DESCRIPTION:

EXPOSED POPULATION: Adult

NUMBER OF SITES	NON-SLUDGE LANDFILL RELEASE AND DAYS OF RELEASE (kg/site/day)/(days)	LANDFILLED SLUDGE ¹ AND DAYS OF RELEASE (kg/site/day)/(days)	MIGRATION DESCRIPTOR ²	ADSORPTION TO WASTEWATER SLUDGE (%)	DRINKING WATER TREATMENT (%)
1	1	1	Rapid	0.00	0.00

¹ Landfilled sludge equals the fraction adsorbed to wastewater treatment sludge times the surface water pre-treatment release.

Migration Descriptor	Log K _{oc}	Groundwater Concentration (GWC) (mg/L per kg release)
Negligible	no migration	None
Negligible to slow	> 4.5	3.21E-6
Slow	<4.5 to 3.5	2.67E-5
Moderate	<3.5 to 2.5	5.95E-5
Rapid	<2.5	7.55E-5

Exposure Units	Results	ASSUMPTIONS			
		ED (years)	AT (years)	BW (kg)	IR (L/day)
Cancer					
LADD _{pot} (mg/kg/day)	1.53E-05	30.00	75.00	71.80	1.40
LADC _{pot} (mg/L)	7.85E-04	30.00	75.00	NA	NA

REMARKS: